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A NEW PUBLIC HEALTH PROGRAM
for NEW YORK STATE

Discussed at the Ninth Annual Meeting of Boards of Counsel



THE ninth annual meeting of the boards of counsel of the Milbank Memorial Fund was held in New York City in conjunction with the New York Health Conference on March 19th and 20th. These meetings were the occasion for review of the New York Health Demonstrations, which terminated as such on December 31, 1930, and for consideration of the present and future significance of these demonstrations particularly in relationship to the new public health program of New York State. The outstanding subjects of discussion during the two-day meetings were the report of the New York State Health Commission and recommendations of what the Commission believes to be im-

portant health problems requiring State legislative action.

The Commission was appointed by Governor Franklin D. Roosevelt on May 1, 1930. In alluding to its work in his address at the dinner meeting of the Fund's boards of counsel, Dr. Livingston Farrand, its chairman, stated that the sole aim of the Commission has been to study facts and to recommend administrative changes which had already been satisfactorily tested in certain communities and found practicable in the judgment of its members, and which, if applied to New York, would immeasurably advance public health in the State. Dr. Farrand stated that every recom-

mendation in the report was the considered result of experience—the experience in a large measure of the New York Health Demonstrations. Had it not been for the experience in better health administration which has been afforded by these demonstrations, he declared, it would have been quite impossible for the Commission to have presented its recommendations with any hope of success.

In its preliminary report, as submitted to Governor Roose-

RECOMMENDATIONS of the New York State Health Commission suggest several ways in which public health administrative machinery in the State can be improved. Some of the new measures proposed require Legislative action and all are based on demonstrated practice. At the ninth annual meeting of the boards of counsel of the Milbank Memorial Fund, attention was focussed particularly upon those of the Commission's recommendations upon which the New York Health Demonstrations has offered some experience. (The meetings which are reported upon in the leading article of this issue of the *Quarterly Bulletin*, were held as sessions of the 1931 New York Health Conference.

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velt, the Commission recommends as an outstanding need the reorganization of the whole system of local health service in New York State on a county rather than a town and vil-

NEW YORK CITY is to have its own chain of district health centers at strategic points, just as today it has its own district police stations and fire headquarters. Purchase or construction by the City of sixteen district health centers by the end of 1934, and expenditure of \$4,000,000 for that purpose is anticipated. In an article beginning on page 37, Health Commissioner Shirley W. Wynne traces the development of this program and reports current progress in its realization. (Brief reports of current inquiries into the incidence of tuberculosis and of contagious abortion among dairy herds in Cattaraugus County appear in later pages.

lage basis, with provision for qualified personnel, both in counties and cities. The Commission believes that effective results in all other aspects of public health cannot be secured without such reorganization. Its report urges that legislation be enacted substituting the county as the unit of local health administration in place of the town and village.

There are now in the State 1,099 local health jurisdictions. Excluding county and city health units, there exist 1,036

local health units with a population ranging from a few hundred to a few thousand persons. "Designed to meet conditions of 1850," the Commission's report reads, "the present system of town, village and small city boards of health fail utterly to meet the needs of 1931, because these units of population are too small to provide the services which modern public health demands." The report states that the four New York counties where county boards of health have been organized provide more effective public health service than do other counties in the State and enumerates fourteen ad-

vantages to be derived from a county administrative unit.

The Commission makes no recommendations for any major changes in the essential structure or policies of the New York State Department of Health itself. It believes that this Department is second to none in organization and in functioning. After giving careful attention to the policy of state aid in public health, which has been in operation in the State for ten years, the Commission concludes that such aid is necessary in the development of new activities, particularly in rural areas, and recommends that such encouragement of the development and operation of local health activities be continued.

The State's important public health needs, requiring legislative action, are summarized as follows in the Commission's preliminary report:

1. Effective local health departments with qualified personnel;
2. More effective service in the control of tuberculosis, cancer and venereal diseases;
3. More comprehensive measures to reduce infant deaths and deaths among mothers from causes incident to child birth;
4. Further coordination of school hygiene with other health services;
5. Better organization for the discovery and cure, rehabilitation and care of crippled children;
6. The extension of public health nursing throughout the State to reach the standards now in effect in a few areas;
7. Protection of the public health through additional safeguards in the purification of water supplies and the prevention of stream pollution;
8. More attention to the growing problem of industrial hygiene.

An entire session of the New York Health Conference was

devoted to consideration of a new public health program for New York State with special reference to these needs.

The major recommendations of the Commission as summarized in its preliminary report, and as conveyed to the State Legislature in a special message from Governor Roosevelt, are as follows:

1. *County Boards of Health.* That county boards of health be organized in all counties to provide for the rural areas and villages more effective control of tuberculosis, the venereal diseases, and other communicable diseases; protection of maternity and infancy; safeguarding of public milk and water supplies, more effective public health nursing service, and other elements of a modern public health program.

2. *Local Health Administration.* That in cities of more than 50,000 population and in the large counties, health commissioners hereafter appointed be required to devote their entire time to the duties of their office.

3. *Tuberculosis.* That the State establish three additional state tuberculosis sanatoria, primarily to receive patients from counties which are too small in population and wealth to maintain suitable sanatoria, the counties reimbursing the State for maintenance of their patients; that the administration of the State Sanatorium at Ray Brook be placed under the Department of Health, and that provision be made for early diagnosis and more effective home supervision and assistance of tuberculous patients through county health departments.

4. *Venereal Diseases.* That provision be made for the diagnosis and treatment of the venereal diseases as a public health problem.

5. *Cancer.* That a division of cancer control be established in the Department of Health.

6. *Maternity, Infancy and Child Hygiene.* That adequate

measures for protecting the health of mothers and children be included in the program of every city and county health department.

7. *Public Health Nursing.* That public health nursing services be extended, particularly in the rural areas, as an integral part of the program of county health departments.

8. *Crippled Children.* That the administration of the State Reconstruction Home at West Haverstraw be placed under the Department of Health, and that state and local services be extended for the discovery and care of crippled children.

9. *Industrial Hygiene.* That the inspection of certain industrial establishments in villages and towns be performed by the Department of Labor instead of by local health officers.

10. *Public Water Supplies.* That the approval of plans for proposed new, and extensions of existing, public water supplies, in so far as the sanitary quality is concerned, be vested in the Department of Health.

11. *Stream Pollution.* That the pollution of streams by industrial wastes, dangerous to the public health, be regulated in the same manner as pollution of streams by sewage.

12. *Public Health Personnel.* That the present authority of the Public Health Council to establish qualifications for certain public health personnel be extended to include other positions in the public health field.

Legislation was passed during the Spring 1931 session of the New York State Legislature containing provisions for carrying out all the important recommendations of the Commission except that requiring the establishment of a county health unit in every county. Although receiving a great deal of important support, including the approval of the State Medical Society and the state association of local health officers, this suggestion had met some opposition from other parts of the State, and the legislative leaders thought it de-

sirable that action on it be postponed until a later session to afford further opportunity for its consideration and discussion.

The creation within the State Department of Health of divisions of cancer control and of orthopedics, and establishment, under the jurisdiction and control of the Department, of three state hospitals for the care and treatment of tuberculosis, are provided in the new law.

Inasmuch as no public funds were available for the Commission's work, the Milbank Memorial Fund, in 1930 made a grant for this purpose of \$10,000 to the New York Academy of Medicine which undertook to raise the funds necessary to meet expenses, including the cost of special studies and publication of its reports. The Commission plans to publish its final report later in the year. The work of the Commission has been done chiefly through committees, a total of eighty-six persons of special experience and training in public health having served in these groups and participated directly in the accumulation of data upon which the body based its findings.

In addition to Dr. Farrand, the chairman, Dr. George W. Cottis, Dr. Simon Flexner, Homer Folks, Dr. Edward L. Keyes, John A. Kingsbury, Agnes Leach, Henry Morgenthau, Dr. Matthias Nicoll, Jr., John M. O'Hanlon, Dr. Thomas Parran, Jr., Dr. William H. Ross, Katharine Tucker, and Dr. Linsly R. Williams, comprise the Commission's membership.

The dinner meeting of the boards of counsel of the Milbank Memorial Fund was held on March nineteenth. It followed morning and afternoon executive sessions of the Fund's Advisory Council at which the present and future program of the Milbank Memorial Fund was discussed. Dr. William H. Welch, chairman of the Advisory Council presided at both the dinner meeting and the executive sessions. Albert G. Milbank, the Fund's president, welcomed the guests on

behalf of the Board of Directors. Other speakers at the dinner meeting, in addition to Dr. Farrand, included Dr. Reginald M. Atwater, commissioner of health of Cattaraugus County; Dr. George C. Ruhland, commissioner of health of Syracuse; Dr. Shirley W. Wynne, commissioner of health of New York City, and Dr. Thomas Parran, Jr., commissioner of health of New York State.

At the opening session of the Advisory Council tribute was paid to the memory of Dr. Veranus A. Moore, noted scientist and Dean Emeritus of the New York State Veterinary College of Cornell University, who died on February 11, 1931. Dr. Moore had been for many years a valued member of the Advisory Council, and he was chairman of one of its most active committees, the Advisory Committee on Animal Foods.

The New York State Health Conference was sponsored by a group of national, state and local health organizations, including the United States Public Health Service, the New York State Department of Health, the New York City Department of Health, the New York State Medical Society, The State Charities Aid Association, the Bellevue-Yorkville Community Health Council and the Milbank Memorial Fund.



NEIGHBORHOOD HEALTH DEVELOPMENT *in the CITY OF NEW YORK*

by SHIRLEY W. WYNNE, M.D., DR.P.H.

Commissioner of Health, City of New York



LOCAL newspapers carried on October 31, 1929, a story all-important to the health of the citizens of the City of New York. The establishment of sixteen new health centers in various districts was pledged by the Mayor to the New York City Department of Health. On June 13, 1930, the newspapers carried another story, this time to the effect that the Board of Estimate and Apportionment had appropriated \$1,000,000 for four health centers to be constructed during 1930 and 1931, with the understanding that a similar sum of money be appropriated each year for the next three years for that purpose. With these announcements, an experimental stage in the City's public health service passes, and the City of New York goes the way of health centers.

The City has been divided into thirty health districts, each to be served eventually by a Health Department Neighborhood Center. From each center will be carried on neighborhood activities of the Department of Health, including public health nursing; tuberculosis and venereal disease services; X-ray and minor laboratory work; baby health stations, and prenatal and preschool conferences; school hygiene and health education programs. In addition will be added some or all of the services of voluntary agencies, needed to supplement the activities of the Department of Health. These will include, among others, services in visiting nursing, family welfare, dental hygiene and the aid of crippled children, and particularly work in nutrition, mental hygiene and health guidance.

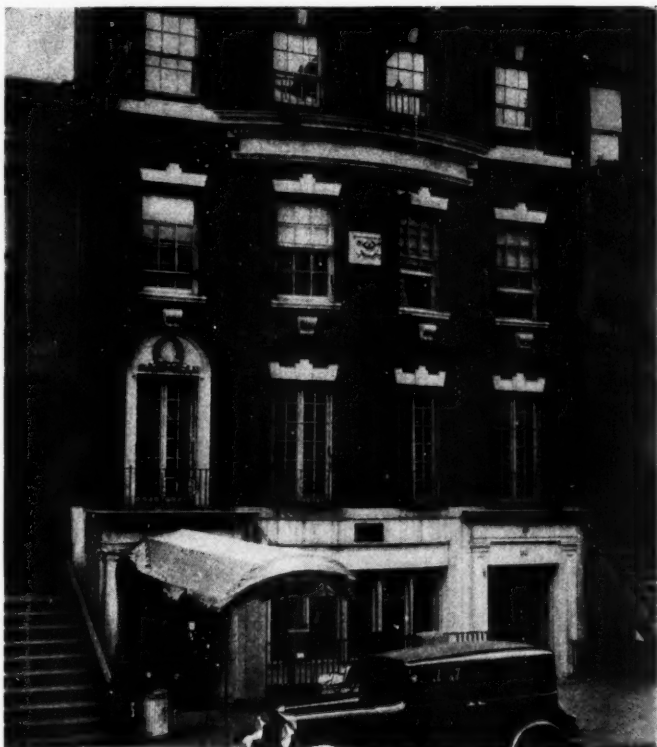
The first health center under the new program of health

center development is a reality. Harlem (a colored district) was chosen as the City's first district because of its peculiar health needs. Quarters were leased at 108 West 136th Street, and the Harlem Health Center was opened there on June 5, 1930. The borough of the Bronx is to have the *first city built* health center on the site at 349 East 140th Street. Plans for the new building have already been tentatively approved.

The health center will serve those who are too poor to pay the private doctor; and it will also provide the physicians of the neighborhood with a central service where X-ray facilities and various means of making biological analyses will be at their disposal. The doctor is the most important factor in the whole public health movement, and I cannot be too emphatic in my statement that the development of the neighborhood centers shall in no wise interfere with the relationship of the patient to his private physician. These health centers are not to be additional free clinics, but will serve the doctor in practising preventive medicine as we believe it should be practised today.

The idea of administering health services locally instead of centrally is not a new one; in the City of New York it presented itself at the time of consolidating the Greater City in 1898. During this period, special problems confronted in different sections of the City led to the formation and maintenance of "neighborhood associations" composed of voluntary groups of citizens. Most of these devoted considerable attention to matters of health, but it is important to remember that health was just one of their many other activities. With the cooperation of the Department of Health, many neighborhood associations conducted campaigns of health education, arranged for health lectures, organized health exhibits and distributed leaflets supplied by the Department.

It was perhaps natural that some of the more progressive




Harlem was chosen as the site of the first health center to be established under the new program of the New York City Health Department. The Harlem Health Center was opened on June 5, 1930, in quarters leased at 108 West 136th Street.

neighborhood associations should succeed in having the Health Department locate a baby health station in close proximity to the headquarters of the neighborhood center, and that subsequently a dental clinic or malnutrition class or other health activity should be added by the city authorities. It can rightfully be said that out of this effective cooperation with the neighborhood associations developed the

idea of establishing district health offices—the forerunner in the City of New York of our modern interpretation of health centers.

New York City's first district health office¹—or health center—was established in 1915 by the Health Department to test the value of local administration of the functions of that Department and to develop a community spirit with respect to health affairs in that district. It was the first center in New York, either public or private, devoted exclusively to the administration of health activities on a district basis. It was the first independent step on the part of the New York City Department of Health toward what was years later to develop into the present city-wide project.

In May, 1916,² the Division of Health Districts of the Department of Health was created under the office of the deputy commissioner and four more health centers were established in the borough of Queens.

The residents of the districts soon recognized the centers as places to which they could come for guidance in public health matters and accordingly made frequent use of them, while the interest of the public in the exhibits and literature on display demonstrated the possibilities of systematic health education campaigns. The centers also proved that civic organizations and public-spirited individuals were ready to aid the Health Department in developing community health programs. 

These health centers were discontinued with the entrance of the United States into the World War. The personnel of the Health Department was greatly diminished; it was impossible to spare the staff for any services except those absolutely necessary to keep the more important activities run-

¹ *Annual Report*, 1915, Department of Health, City of New York; Monograph Series, Health District No. 1, by Alfred E. Shipley, M.D.

² *Annual Report*, 1916, Department of Health, City of New York.



Each health center will carry on such services of the Department of Health as public health nursing, tuberculosis and other health guidance, X-ray and minor laboratory work, prenatal activities, baby health stations, preschool conferences, school hygiene, venereal disease control measures and health education.

ning. It was the experience gained during the war, however, that demonstrated the advisability of housing together all agencies whose activities related to the health of a district.

As part of its post-war program,³ the American Red Cross urged the establishment of "health centers" by local chap-

³ Nelson Loose-Leaf System—Volume on Preventive Medicine—article on Social and Economic Aspects of Public Health by Bolduan and Corwin.

ters. In a bulletin issued in September, 1919, by that organization, the health center was defined as "the physical headquarters for the public health work of a community. . . . It constitutes a businesslike way of associating health activities, both public and private, under one roof, in daily touch and in complete mutual understanding."

In due course, the New York County Chapter of the Red Cross, carrying out this policy, fostered the development of the East Harlem Health Center in New York City in 1921. This Center was an experiment in coordinating health and family welfare work under one roof in a defined city area undertaken by the Department of Health and twenty-two cooperating agencies. Subsequent financial assistance was given the Center by a number of organizations including the Rockefeller Foundation, the Altman Foundation, Russell Sage Foundation and Milbank Memorial Fund.

The East Harlem Health Center thus took the first steps to bring together under one roof activities which had previously been carried on in experimental health districts of the Department of Health; in the field of public health nursing carried on by the Henry Street Settlement; in the field of health education activities of the neighborhood associations and the American Red Cross; and in the field of social service by the welfare agencies.

In carrying on work in this Center, it became apparent that the value of a number of projects included in the East Harlem program, and others, could advantageously be tested out in other districts of the City, to determine primarily whether they should be included in the routine work of the Department of Health. It was felt, however, that the testing out of such projects was peculiarly the province of private enterprise.

It was at this juncture that the Milbank Memorial Fund inaugurated the three New York Health Demonstrations,

one of them in the metropolitan Bellevue-Yorkville district of New York City. It was the purpose of this demonstration to "enable the Health Department to enlarge its activities and try new methods for the prevention of disease, experimentally, in the Bellevue-Yorkville district, and to work out an effective plan for a local health station, in which the various services will be so integrated as to produce the maximum results in the conservation of health."

In the Bellevue-Yorkville district have been tested out coordinately a number of interesting projects never before undertaken. The Bellevue-Yorkville Health Building at 325 East 38th Street has served both as a neighborhood health center and as an experimental station for trying out metropolitan health administrative practices.

The East Harlem Health Center and the Bellevue-Yorkville Health Demonstration have established the fact that the work of the Department of Health and of the private agencies can be so coordinated that qualitative and quantitative measures in the interest of better community health can be enhanced.

In New York City's present program for the creation of district community health centers, we see the fruition of such earlier efforts. We have seen the early neighborhood associations in cooperation with the Department of Health attempting to make their neighborhoods "health-conscious". We have seen growing out of this endeavor the establishment by the Department of Health of a center to bring health service directly to the people of a given district; and in this connection we have seen the Department cooperating with the voluntary neighborhood groups. We have further seen the newer idea in health centers put into practice with the housing under one roof of the activities of the Department of Health and those of the voluntary agencies.

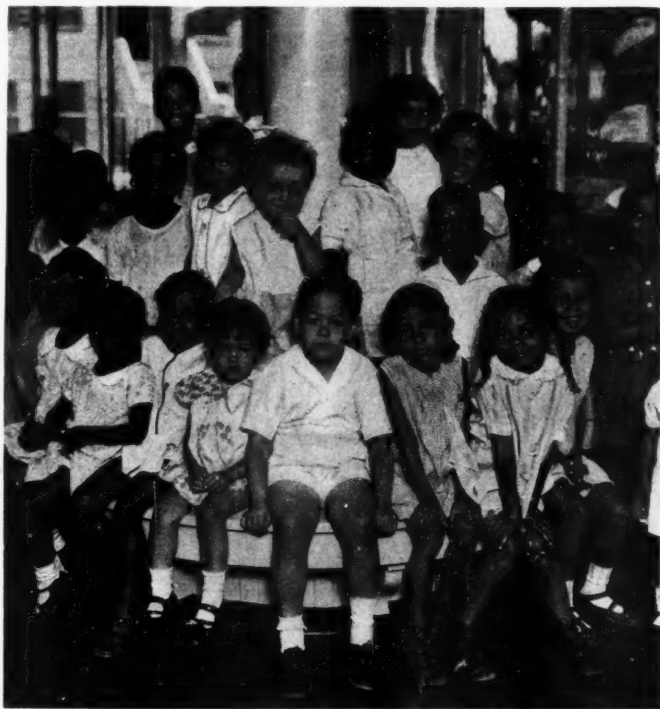
Growing out of this experience, I appointed in July, 1929, a Committee on Neighborhood Health Development. This Committee, composed of representatives of twenty-five of the leading medical, health and welfare organizations in the City, was asked to study the present health needs of the City, to make an appraisal of the various types of neighborhood health organizations now operating, and to propose plans for dividing the metropolis into natural neighborhoods for health administration. The Committee was also asked to formulate a plan for individual health centers and for gradually establishing them in the neighborhoods where such services are most needed.

Once organized, the Committee, whose work was financed by the Milbank Memorial Fund, began the study of city-wide health needs and of special problems of various neighborhoods, with an eye to possible future developments. Its investigation has taken many months. It has studied the reported figures of deaths and sicknesses. It has inquired into living conditions and the range of income of the people in the different localities which proposed health centers would serve. It has taken an inventory of the welfare agencies serving each locality throughout the City. At first hand it has looked into the question of what constitutes a neighborhood in a city composed of so many complex communities.

Out of the Committee's inquiries has grown a mass of valuable information, upon the basis of which it was possible for the Department of Health to formulate a plan and to make specific recommendations to the Mayor and to the Board of Estimate and Apportionment. The result, already mentioned, was the authorization by the Mayor to proceed upon the assumption that the City would eventually establish sixteen new health centers. The Board of Estimate and Apportionment has already made the first appropriation of

\$1,000,000 for the construction of four such centers in 1930 and 1931, with the understanding that for a similar purpose a similar sum would be appropriated each year for the years 1932, 1933 and 1934.

From now on, neighborhood health development is going forward. We have just swung into action—and we are gaining stride each day. I want to express at this time my appreciation to those organizations and foundations whose assistance made possible the demonstration health centers which pointed the way toward this new constructive step in the City's program for the conservation of the health of its people.



A NOTE ON THE EXTENT OF TUBERCULIN
TESTING AND TUBERCULOSIS INFECTION
IN COWS IN A RURAL AREA OF
CATTARAUGUS COUNTY¹

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THE attempt to eradicate bovine tuberculosis in Cattaraugus County has been described in considerable detail by the late Dr. Veranus A. Moore who took such a prominent part in the undertaking.² As Dr. Moore pointed out in his extremely interesting paper, the advisability of attempting to eradicate bovine tuberculosis was recognized as one of the first requisites of a safe milk supply.

The undertaking was begun through the cooperation of the County Health Department and the County Farm and Home Bureau Association aided by the Board of Supervisors. The assistance of the Federal Bureau of Animal Industry and the New York State Department of Farms and Markets was secured by a committee appointed by Dr. William H. Welch, chairman of the Advisory Council of the Milbank Memorial Fund. This committee, which was created to render technical advice on bovine tuberculosis, was composed of Theobald Smith, M.D., director of the Department of Animal Pathology of the Rockefeller Institute, Princeton, New Jersey, chairman; William H. Park, M.D., director of the Bureau of Laboratories of the New York City Department of Health; and Veranus A. Moore, M.D., late dean of the New York State Veterinary College at Cornell University.

The situation prior to this attempt to eradicate bovine tuberculosis, as reported by O. H. Chapin, the County Farm

¹ From the Division of Research, Milbank Memorial Fund. The data were collected by Mr. Clinton N. Woolsey with the cooperation of the Cattaraugus County Health Department.

² Moore, Veranus A.: An Attempt to Eradicate Bovine Tuberculosis in Cattaraugus County. *Veterinary Medicine*, July, 1929, Vol. XXII, No. 7, pp. 283-289.

Bureau agent, was that some 17,000 of the 80,000 dairy cattle in the County had been tested under the accredited-herd-plan and 13 per cent of the animals tested had reacted. In all the tests made in 1923, there were 65,208 cattle examined, with 7.7 per cent reactors. In 1924, there were 71,003 cattle tested with 4.9 per cent reactors. From November 1, 1924, to September 15, 1925, there were 25,483 cattle, largely in infected herds, retested with 2.53 per cent reactors. During this period, in all there had been removed 11,451 infected animals from the herds in Cattaraugus County. In May, 1927, Dr. E. T. Faulder, chief of the Bureau of Animal Industry in the Department of Agriculture and Markets in Albany, wrote Dr. Smith to the effect that the infection in Cattaraugus County had been reduced from 10.3 to .99 of one per cent, which he considered as "a very satisfactory showing". By the end of 1930, according to data furnished by Dr. Ralph Knight, the state veterinarian, the per cent reacting was .85.

The campaign against bovine tuberculosis was, as Dr. Moore has pointed out, beset with a number of difficulties that for the moment were hard to overcome. An important feature of the campaign was the fact that the drive in Cattaraugus County was assisted by local veterinarians. This seemed wise for two reasons. One was that it was not possible, at the time the campaign was begun, for the State and Federal governments to furnish a sufficient number of veterinarians to carry on the testing of the cattle on so large a scale. A second reason was that since owners of cattle had to depend on the local veterinarians to continue the testing as their herds became accredited officially, it seemed best to have local practitioners initiate the work.

In the summer of 1930, the opportunity was afforded to check the results of tuberculin testing of cattle in the course of a sanitary survey of 720 households living in the country in

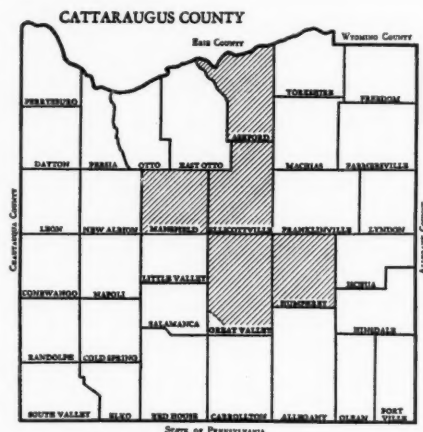
Ashford, Ellicottville, Mansfield, Great Valley and Humphrey Townships of Cattaraugus County, and included in the epidemiological study being conducted by the United States Public Health Service in collaboration with the Milbank Memorial Fund. A record was made of the following:

- (a) Ownership of cows during the twelve months preceding the visit to household, size of herd, purchase of cattle, and source of cattle purchased.
- (b) Tuberculin testing of cows and the result of the tests during the same period.

The data were obtained from the farmers themselves by personal interviews and included some information not usu-

ally available from official reports on tuberculin testing of herds.

Fig. 1. Outline map of Cattaraugus County, showing (shaded portion) area covered by the sanitary survey.



Size and character of "sample" surveyed: A total of 720 farms were visited. These farms were visited without any selection and included nearly all of the farms in the area which is shown in the accompanying map (Fig. 1).

Ownership of cows and size of herds: Of the 720 farmers, 78 per cent owned one or more milk cows at the date of visit. The detailed distribution of farmers according to the number of cows owned is summarized in Table I.

It is obvious that the area is a milk-producing one. The average number of cows per herd was 13.3 and per farmer (including non-cow-owning) was 10.4.

Table I. Distribution of farms and of cows according to size of herds.

Size of Herd	Number of Owners	Number of Cows
TOTAL	720	7,489
0	156	—
1-5	128	307
6-10	117	941
11-15	120	1,545
16-20	87	1,557
21-25	53	1,231
26-30	31	862
31-35	14	450
36-	14	596

Extent of tuberculin testing: Of the 564 herds, 487 or 86.3 per cent had been tested during the twelve months preceding the date on which information was obtained. Thus about 14 per cent of the herds were not tested. Of the 7,489 cows, 758 or 10.1 per cent were not tested.

The herds which failed to be tested were chiefly the smaller herds. The proportion not tested in herds with less than 6 cows was 27.3 as compared with 6.8 for herds with 25 cows or more. The larger the herd, and presumably the more important the source of commercial milk supply, the more completely was tuberculin testing done, as Table II shows.

Prevalence of tuberculosis infection: It was found that about 11 per cent of the herds tested during the preceding twelve months contained one or more reactors. This was slightly less than the percentage of herds considered infected in this area upon the basis of the state veterinarian's records,³ which was 12.2.

Of the 6,846 cows reported by the owners as tested during the preceding twelve months, 1.6 per cent were stated to have been positive reactors. This rate is nearly double the 0.85 per

³ Acknowledgments are made to the late Dr. Veranus A. Moore for furnishing the reports in detail which he obtained from Dr. Ralph Knight, the state veterinarian in Cattaraugus County.

SIZE OF HERD* (Cows)	PER CENT NOT TESTED		NUMBER OF HERDS		NUMBER OF COWS	
	Herds	Cows	Total	Not Tested	Total*	Not Tested
TOTAL	13.7	10.1	564	77	7,489	758
1-5	27.3	29.0	128	35	307	89
6-10	11.1	11.1	117	13	941	104
11-15	10.8	10.7	120	13	1,545	166
16-20	8.1	8.0	87	7	1,557	124
21-25	9.4	9.5	53	5	1,231	117
25-	6.8	7.6	59	4	1,908	145

*As of date of visit.

Table II. Per cent of herds and of cows not tuberculin tested during the twelve months, preceding the summer of 1930, according to size of herd.

cent for the entire County as shown by the records of the state veterinarian. For the same five townships, however, the state veterinarian's records showed the percentage of reactors upon the last test in 1930 to be 1.9. It is thus indicated (1) that the five townships considered did not constitute a fair sample of the County, and (2) that the canvass was a fairly accurate method of obtaining information on tuberculin testing of cattle.

The prevalence of tuberculosis infection was higher in the larger herds than in the smaller as Table III shows. This is to be expected by reason of the greater chance of infection in large groups. Furthermore,

Table III. Per cent of cows tuberculin tested which gave positive reactions, classified by size of herd.

Size of Herd* (Cows)	Per Cent of Cows Positive	NUMBER OF COWS	
		Total Tested*	Positive
TOTAL	1.60	6,846	110
1-10	1.03	1,064	11
11-20	1.25	2,731	34
21 or more	2.13	3,051	65

*As of date on which tests were made.

the large herds are recruited from cattle outside of the County to a greater extent than the small herds. From the data obtained it was possible to classify the herds into those to

which cows were added by purchase during the preceding year, and herds which had not been augmented by purchase of cows during the preceding year. The herds which were so augmented could be further classified into two groups: (1) those augmented by purchase of cows from owners within the County and (2) those augmented by purchase of cows from outside the County. The average size of herds not increased by purchase of cows was 13.7 and of herds increased by purchase from within the County was 13.8, as against 18.8 for herds increased by purchase of cows outside the County. The proportion of cows with a positive reaction was largest in the herds which had been augmented by purchase of cows from outside the County as shown in Table IV. Although the numbers involved are small, this high rate of infection in herds affected by importation of cows is probably significant and is an interesting indication in view of the intensive campaign for the eradication of tuberculous cattle in Cattaraugus County during the past few years. The need to control the importation of infected animals by certain dealers has been recognized by the state authorities.

Table IV. Per cent of cows reacting positively to tuberculin test in herds augmented and not augmented by purchase of cows during the twelve months preceding the summer of 1930.

	TOTAL NUMBER OF COWS TESTED	NUMBER OF POSITIVE REACTORS	PER CENT POSITIVE
Herds to which no cows were added by purchase during year	5,409	84	1.55
Herds augmented by purchase of cows from owners in County	1,047	7	.67
Herds augmented by purchase of cows from outside of County	207	9	4.50

INCIDENCE OF CONTAGIOUS ABORTION AMONG COWS *in* CATTARAUGUS COUNTY¹



THE incidence of contagious abortion in cattle in Cattaraugus County was studied last summer in a sample of the rural area. Such a study was prompted by the fact that several cases of undulant fever occurred in Cattaraugus County in 1930. The possible relationship between contagious abortion in cattle and undulant fever in the human population was not included in this phase of the general inquiry. The collection of data on contagious abortion was made possible in the course of a sanitary survey of 720 households living in Ashford, Ellicottville, Mansfield, Great Valley and Humphrey Townships, where epidemiological studies are being conducted by the United States Public Health Service in collaboration with the Milbank Memorial Fund.²

Of the 720 families visited, 78 per cent or more owned milch cows at the date of visit. For the cow-owning farmers data relating to contagious abortion during the twelve months preceding date of visit were obtained for 561 herds in which there were 6,921 cows. The record of abortion was based on the statement of the cow owner.³ It is believed that it is a minimal statement for the reason that in several instances abortions, which were probably contagious abortions, occurred in herds whose owners failed to recognize the disease.

Of the 561 herds, 81 or 14.4 per cent were affected with

¹ From the Division of Research, Milbank Memorial Fund. The data were collected by Mr. Clinton N. Woolsey with the cooperation of the Cattaraugus County Department of Health.

² See page 48.

³ Since no bacteriological data were obtained in connection with this particular inquiry, it is not known how much of the infection was due to *Brucella abortus*, *Brucella suis*, or other variety. It is presumed that *Br. abortus* was chiefly, if not entirely, responsible.

contagious abortion during the preceding year. Of the 6,921 cows in these 561 herds, 228 aborted during the preceding year, giving a rate of 3.3 per cent.

As stated above, it is believed that this rate is not an exaggerated one and is probably an understatement. It was found impracticable to obtain a record for each cow which calved during the preceding year; so that upon the assumption that on the average a cow belonging to a milch herd calves once a year, the percentage is based on the number of abortions by the number of milch cows owned at the time of the visit.

From the data obtained it was possible to classify the herds into those augmented by purchase and those not so augmented during the preceding year, and the herds which were augmented could be further classified into those augmented by purchase of cows from within the County and those augmented by purchase of cows from outside the County. It is interesting to note that the percentage of herds affected by the disease was higher for herds which had been augmented by purchase during the year than for herds to which no new cows were added, as the table shows.

The number of herds which were augmented by purchase from without the County is probably too small to yield a dependable conclusion.

	TOTAL NUMBER OF HERDS	NUMBER AFFECTED BY CONTAGIOUS ABORTION	PER CENT AFFECTED BY CONTAGIOUS ABORTION
Herds to which no cows were added by purchase during year	453	59	13.0
Herds augmented by purchase of cows from owners in County	89	16	18.0
Herds augmented by purchase of cows from outside of County	17	6	35.3

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